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SCIENTIFIC COMMUNICATION

‘BRS MANDINHO’: THE FIRST PLATYCARPA PEACH CULTIVAR RELEASED IN BRAZIL[1]

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ABSTRACT – In recent years, platycarpa peaches have reached high prices due to their good acceptance in the international market. However, the great majority of the released varieties are high chill and do not adapt to Brazilian conditions except on a few microclimes of high altitudes. The cultivar BRS Mandinho is the first peach cultivar of the botanical variety platicarpa, released in Brazil and adapted to subtropical conditions. The plants are vigorous and, in the state of Rio Grande do Sul, the blooming occurs on the second half of July. The fruits are sweet and ripe in November with an average weight of 55.3 g.
Index terms: breeding, selection, *Prunus persica* var. platycarpa.

‘BRS MANDINHO’: PRIMEIRA CULTIVAR DE PÊSSEGO TIPO PLATICARPA, LANÇADA NO BRASIL

RESUMO – Pêssegos tipo platicarpa têm alcançado ótimos preços devido à boa aceitação no mercado. Entretanto, a quase totalidade das cultivares lançadas são bastante exigentes em frio hibernal e não se adaptam às condições brasileiras, exceção representada por pequenas áreas de microclimas, com elevada altitude. A cultivar BRS Mandinho é a primeira cultivar da variedade botânica platicarpa lançada no Brasil e adapta-se a condições subtropicais. Suas plantas são vigorosas e a floração, no Rio Grande do Sul, ocorre na segunda quinzena de Julho. As frutas são doces e amadurecem em novembro e apresentam massa média de 55,3 g.
Termos para indexação: melhoramento, seleção, *Prunus persica* var. platicarpa.

In recent years, platycarpa type peaches have had great acceptance, reaching high prices in the international market. Either because they are still novelties, or by the easiness to taste them, or else because of the good taste that characterizes the series released until the present date, in the USA and Europe, this type of fruit has certainly conquered the preference of large portion of consumers and still has high added value. For these reasons, most breeding programs have included this character among their objectives (PICAÑOL et al, 2013).

In Sicily, Italy, for example, the platycarpa type peaches have being grown for years, but had some problems mainly related to cracking, the apex opening and short peduncles causing damage to the peel at harvest. After 15 years of breeding, it was released the UFO series (‘UFO 1 to UFO 9’) with good fruit size (6 to 8 cm diameter) with almost none of the defects mentioned above, and with soluble solids content ranging from 11 ° Brix in ‘UFO 4’ to almost 17 ° Brix in ‘UFO 6’ (ISTITUTO SPERIMENTALE PER LA FRUTTICOLTURA, 2014). These cultivars were not introduced for planting in Brazil, but due to their high chilling requirement, for cold winter it is believed they would not have a good adaptation.

On the other hand, cv. Galaxy, originating in the program of the United States Department

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of Agriculture (USDA), California (RAMMING, 2005), was first introduced in Pelotas, RS and then in Videira, SC. This cultivar has marginal adaptation under some microclimates of the Southern Brazil. There was, therefore, a need (in the producer market) of low chill, cultivar of platycarpa, type of fruit (saucer shape, flat shape). The fruit size in the released Brazilian cultivar is small. There is also a need for to developing other cultivars to producers and consumers to have series of platycarpa type peaches, resulting in a longer period of the product availability. However, cv. BRS Mandinho is very important because it represents, in Brazil, the first step in this direction.

The cv. BRS Mandinho was obtained by open pollination, of Cascata 828 selection. This selection was originated from a cross made in 1992 between the originated: Taquari 19 (from the Taquari Station, Department of Agriculture of Rio Grande do Sul) and Fla 6-12, from the University of Florida. In 2001, seeds were collected from the Cascata 828 selection were colected, planted the following year and identified as C-2001-116. Plant number 8 was selected in 2005, propagated by budding and, since then, has been evaluated in the collection of Embrapa Temperate Climate and later in other sites as well.

The name "Mandinho" was chosen because it is a cultivar that produces small to medium size fruit, when compared to imported ones, but of very good taste and appearance, which pleased the children who had the opportunity to taste it. The word "Mandinho" is a regional term meaning child, kid, and boy. The fruits of this cultivar are for a market niche in which the infantile public represents the largest portion.

The plant of the 'BRS Mandinho' is vigorous, with growth habit tending to open (Figure 1). The one year old branches have average medium to long internodes, with absent or weak anthocyanin pigmentation. The plants are moderately susceptible to brown rot and scab. The full bloom of cv. BRS Mandinho occurs in the third decade of July. The flowers are rosacea, type with roundish petals, light pink color and small to medium size.

The fruit set is high, however due to the fruit size, the average productivity is relatively low, barely over 10 ton.ha^{-1} in adult orchard. However, in one observation orchard it reached 14 ton ha^{-1} in young plants. Besides the taste, this cultivar has as advantage the fact of being the first Brazilian cultivar to produce platycarpa fruits (flat, donuts type) and one of the few low cultivars of this type worldwide. The leaves blade are medium green color, with almost right angle to the base and crenate margins. The petiole is medium to short with reniform nectaries.

'BRS Mandinho' produces saucer shaped fruits (flat), yellow and firm pulp, with good flavor, sweet acid taste, but predominantly sweet taste. The total soluble solids content has varied between 11 and 16 ° Brix. The peel is yellow with some of the area (40-80% depending on the insolation and type of fertilizer) covered by bright solid red, (Figure 2). The size is small, ranging from 4.5 to 6.5 cm in diameter (Table 1). The fruit apex is usually tightly closed but sporadically, the fruit may present crack.

The maturation time coincides with the cultivar Premier and under Pelotas conditions, is also very close to the cv. BRS Kampai (Table 2). But 'Premier' produces fruit of conical shape, with soft and melting pulp (RASEIRA; NAKASU and BARBOSA, 2014).

As already mentioned, 'BRS Mandinho' is a low chill cultivar with chilling requirement, estimated as 100 to 150 h, which differs from the main cultivars of this type of peach grown in Europe and in the United States.

Since 2009, plants of this cultivar under denomination of Cascade 1373 selection, were placed in several observation units in Paraná (Araucária), São Paulo (Jarinu and Paranapanema), Santa Catarina (Urussanga), Minas Gerais (Barbacena) and Espírito Santo (Domingos Martins), with a good adaptation.

Plants of 'BRS Mandinho' are, since July/ 2015, available at nurseries licensed by Embrapa. Further information can be found at : https://www.embrapa.br/produtos-e-mercado/pessego

TABLE 1 - Phenology and production data of cv. BRS Mandinho at Embrapa Clima Temperado, located at 31 ° 40'47 "S and 52 ° 26'24" W and 60m altitude. Pelotas, RS.

Year	Sprouting beginning	Flowering beginning	Full Bloom	Flowering end	First harvest	Degree of production*
2008	20/07	15/07	25/07	04/08	29/10	3
2009	18/07	13/07	25/07	07/08	23/11	4
2010	16/07	09/07	23/07	09/08	23/11	2
2011	17/07	10/07	24/07	04/08	17/11	4
2012	16/07	10/07	22/07	04/08	05/11	5
2013	03/07	27/06	09/07	20/07	04/11	4

*The degree was checked before fruit thinning on a scale of 1 to 5, where 1 = very low production; 2 = poor; 3 = need very light fruit thinning or almost no need, but with good production; 4 = need enough thinning; 5 = excessive production.

TABLE 2- Average mass data, diameter, firmness and soluble solids, obtained in fruit samples cv. BRS Mandinho produced in plants from the collection of Embrapa Clima Temperado, located at 31° 40'47" S and 52°26'24"W and 60m altitude. Pelotas, RS.

Year	Average mass of fruits	Average diameter (cm)	Firmness at consunption stage ($lb.cm^{-2}$)	Soluble solids (°Brix)
2008	55g	5.2	6.0/6.5	12.6
2009	56g	5.4	7.3/8.7	10.5
2010	36g	4.8	6.0/7.9	14.2
2011	60g	6.1	7.6/7.6	12.7
2012	63g	5.8	6.7/7.8	10.6
2013	62g*	5.3	6.3/8.5	13.1

* In the same year, the average fruit weight was 80 g in fruits produced in the observation unit, located in Jarinu, SP.

(Photo: Maria do C. Bassols Raseira)

FIGURE 1 - Two year old plant of cv. BRS Mandinho, in a private orchard, in Jarinu, SP.

(Photo: Paulo Lanzetta)

FIGURE 2-Fruits of cv. BRS Mandinho.

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